DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING SERVICES
Office of Structural Materials
Quality Assurance and Source Inspection

Bay Area Branch
690 Walnut Ave.St. 150
Vallejo, CA 94592-1133
(707) 649-5453
(707) 649-5493

Contract #: 04-0120F4
Cty: SF/ALA Rte: 80 PM: 13.2/13.9
File #: 69.28

WELDING INSPECTION REPORT

Resident Engineer: Pursell, Gary
Address: 333 Burma Road
City: Oakland, CA 94607

Report No: WIR-001825
Date Inspected: 20-Mar-2008

Project Name: SAS Superstructure
Prime Contractor: American Bridge/Fluor Enterprises, a JV
Contractor: Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island

OSM Arrival Time: 1800
OSM Departure Time: 730
Location: Shanghai, China

CWI Name:	See Below			**CWI Present:**	☑ Yes	☐ No	
Inspected CWI report:	☐ Yes	☑ No	☐ N/A	**Rod Oven in Use:**	☑ Yes	☐ No	☐ N/A
Electrode to specification:	☑ Yes	☐ No	☐ N/A	**Weld Procedures Followed:**	☑ Yes	☐ No	☐ N/A
Qualified Welders:	☑ Yes	☐ No	☐ N/A	**Verified Joint Fit-up:**	☑ Yes	☐ No	☐ N/A
Approved Drawings:	☑ Yes	☐ No	☐ N/A	**Approved WPS:**	☑ Yes	☐ No	☐ N/A
				Delayed / Cancelled:	☐ Yes	☑ No	☐ N/A

Bridge No: 34-0006
Component: Tower and OBG Fabrication

Summary of Items Observed:

Caltrans Quality Assurance (QA) Inspector, Mr. Paul Dawson, arrived on site at the Zhenhua Port Machinery Company (ZPMC) facility at Changxing Island, in Shanghai, China, for the purpose of monitoring welding and fabrication of the San Francisco / Oakland Bay Bridge (SFOBB) components. The QA Inspector observed the following:

Orthotropic Box Girder (OBG) and Tower Mock Up:

CWI Inspectors: Mr. Wu Ming Kai, Mr. Xu Xianping

Bay 1

QA Inspector observed ZPMC personnel securing clamps to hold deck plate DP110 / PL138 to a camber table adjacent to the overhead gantry that will be utilized to complete welding of closed rib stiffeners. The QA Inspector did not observe any personnel performing welding on this plate during this shift.

QA Inspector observed ZPMC welder Mr. Liu Xianomin stencil 59393 is using welding procedure specification WPS-B-T-2342-U2 (U-rib) to make flux cored tack welds on OBG deck plate DP432, closed ribs. The QA Inspector observed a welding current of approximately 340 amps, 30.0 volts and the base material has a minimum preheat temperature of 10° C. Items observed by the QA Inspector appear to comply with project specifications.

QA Inspector observed ZPMC welder Mr. Li Huabei stencil 59472 is using welding procedure specification

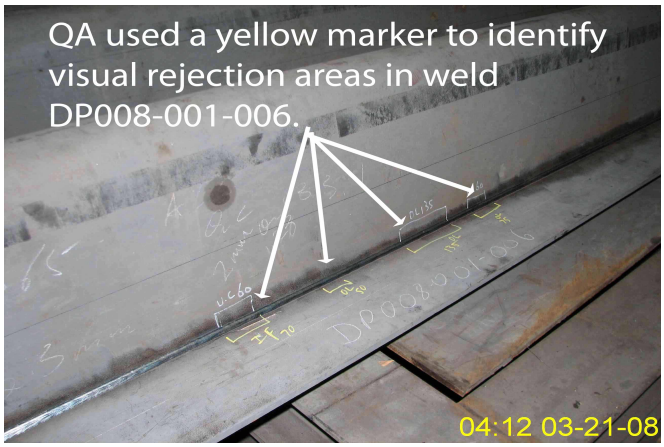
WPS-B-T-2342-U2 (U-rib) to make flux cored tack welds on OBG deck plate DP432, closed ribs. The QA Inspector observed a welding current of approximately 340 amps, 30.8 volts and the base material has a minimum preheat temperature of 10° C. Items observed by the QA Inspector appear to comply with project specifications.

The QA Inspector performed random visual inspections of deck plate DP272-008 closed rib welds # 004, 005 and 006 and deck plate DP008-001 closed rib welds # 004, 005 and 006. The QA Inspector used a yellow marker to identify locations on these welds that have various degrees of weld insufficient fill, weld overlap, and other similar weld conditions. The results of these inspections were documented on forms titled: "Caltrans QA Visual Weld Inspection Report for the OBG Deck Panels". These completed forms will be submitted to engineering for review. See the photograph below for additional information.

Bay 3

The QA Inspector observed ZPMC personnel perform heat straightening of OBG base plate BP002 as directed by HSR1(B)-286. This HSR has been approved by Mr. Hu Gang on 03-18-2008. The QA inspector observed Quality Control Inspector Mr. Zhang Qiang monitoring the heat temperature. A large metal weight has been placed on this plate to aid in this flame straightening process. This work is taking place on an elevated platform approximately six feet above the adjacent floor. Items observed appear to comply with project specifications.

The QA Inspector observed ZPMC welder Mr. Li Zhaqian stencil 48810 is using welding procedure specification WPS-B-T-2233-B-U2-F1 to make a flux cored groove weld between various "T" stiffener plates. The QA Inspector observed a welding current of approximately 210 amps, 25.1 volts and the base material had been preheated to a minimum of 10° C. The QA Inspector told ZPMC QC/CWI Inspector Mr. Xu Xianping that other welds on similar "T" ribs had exceeded the maximum interpass temperature during the welding process and the QA Inspector asked Mr. Li Xianping how QC personnel have been monitoring the maximum interpass of these welds. Mr. Xianping said QC personnel have been using a laser temperature indicating device to monitor this interpass temperature. The QA Inspector asked Mr. Xianping where this temperature monitoring device was located, and Mr. Xianping said QC will need to get one from the other side of bay 3, and a short while later the QA Inspector observed QC personnel using a laser temperature indicating device to ascertain that the base material where Mr. Zhaqian was preparing to weld is less than the maximum interpass temperature of 230°C. Items observed by the QA Inspector appear to comply with project specifications.



WELDING INSPECTION REPORT

(Continued Page 3 of 3)

Summary of Conversations:

See above for summmary of conversations.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Mazen Wahbeh, (818) 292-0659, who represents the Office of Structural Materials for your project.

Inspected By:	Dawson,Paul	Quality Assurance Inspector
Reviewed By:	Hager,Craig	QA Reviewer